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## **Evaluation of Integrated Document Management System (IDMS) Options for ADOT**

### **Background**

The ADOT IDMS engagement began in February 2001 and initiated a program of understanding and analyzing the current document management practices and standards with ADOT. During the course of the 18 month engagement, the IDMS Research Team used surveys and interviews to analyze and document the core business practices and document handling procedures within ADOT. The primary mission was to listen to individual user groups and stakeholders within ADOT and allow them to articulate their specific business requirements, needs, and expectations with respect to IDMS solutions.

The Research Team specifically found a range of business cultures, technology aptitudes and backgrounds, and expectations towards the benefits, which would result from IDMS solutions. Staff Engineers, for example, within the Intermodal Transportation Division would have a singular approach to IDMS solutions based on the use of engineering graphics, integration to Computer Aided Design (CAD) systems and related issues, while

staff within the Transportation Support Group would have an entirely view of IDMS solutions based on the capture and retrieval of basic office support documents, such as financial audits and human resource information. The result was a fragmented view of document management within ADOT, with each business area implementing what they consider to be a best practices approach to the records and documents management, while not having a view at an enterprise level of the discipline.

The basic challenge of the study team, hence, was to reconcile the needs of a broad number of business cultures and competing work approaches within ADOT and formulate a single, workable strategy based on the survey inputs from a number of senior stakeholders across the organization. By accomplishing this step, ADOT could then proceed to acquire and deploy IDMS solutions and obtain optimal leverage over it's document resources, while solving basic logistical issues facing the organization such as document storage, backup, and ability to share information effectively between decision makers and stakeholders.

## Approach

The approach and methodology employed during the engagement focused on the gathering and analysis of specific needs and concerns within each of the respective areas of operation within ADOT. The study team employed a focused, concentrated approach to collect and gather the range of requirements from individual contributors and stakeholders. The study objective was to collect this information, analyze and determine patterns of need and commonalities, and present the research information back to ADOT, without disrupting normal day-to-day work activities of staff or contributors at ADOT.

## Findings

The IDMS study commissioned by ADOT determined a significant case for electronic document management exists within the organization. The research and analysis conducted by the study team allowed all key stakeholders and participants to 'freeze the action', evaluate the core business processes and document flows, and reexamine ADOT's document handling procedures and approach. The research resulted in a series of key conclusions:

- Physical documents remain the preponderant media of choice within the organization for the storage, retention, and dissemination of information, in comparison to other information forms. The vast majority of information, both from an office and engineering perspective, still resides in paper format, managed in document archives, folders, and filing areas.
- Current document handling procedures and techniques within the organization can be significantly reengineered and enhanced through

the strategic use of IDMS technologies. By converting information to electronic format, ADOT will gain quantum increases in the organizational efficiency and ability to coordinate and share mission critical documents across the organization, while also enhancing security and access to sensitive files managed within the secure IDMS information framework.

- Any future IDMS deployment must have substance and depth to cross departmental boundaries and effectively share information between stakeholders within a secure access framework.
- The factors which could impede application of IDMS are primarily cultural in nature, and related to the human factors within the organization, and not related to a specific technology model.
- Legal issues with respect to the storage and management of digital records are not fully resolved within the State of Arizona.
- Legal issues notwithstanding, the end user community will make significant strides and gains in productivity, efficiency, and ease of access to on-line IDMS information through the use of industry standard IDMS systems such as FileNET Panagon or Documentum.
- The infrastructure exists today to deploy the propagate IDMS technologies as a mainstay technology within ADOT. Successful IDMS deployment has already occurred within the Bridge Group. It is simply a question of replicating the approach and methodology used.

- FileNET Panagon is the recommended IDMS platform of choice, based on analysis of the available market offerings, including eiStream, Documentum, Spicer, Green Pastures Software, Cimmetry, and other current office and engineering IDMS products.
- Because the IDMS market is dynamic and evolving, in terms of higher capabilities and performance at a lower overall purchase price, we recommend that ADOT continue to research the market and stay informed of current IDMS capabilities and features, either through direct contact with supplier groups such as FileNET and Documentum, or via interface to the appropriate product suppliers.
- Involvement with the respective IDMS industry trade groups such as the Association for Information and Image Management (AIIM) and the Association of Records Management Administrators (ARMA) is also recommended. Direct involvement with the local chapters of these organizations will allow ADOT participants to hear first hand accounts of other implementation success stories and IDMS application scenarios, both within the public sector and in commercial operations.

The IDMS Study was the first step towards normalizing the organization's approach to IDMS technologies, and establishing a baseline in terms of the specific benefits which could be achieved at a departmental level, through the use of a consistent, standardized IDMS vision and approach. The recommendation of the Study Team is to continue to explore the use of IDMS technologies, target 1-2 specific new high value areas where immediate results

and efficiencies can be generated from IDMS, and invoke the necessary acquisition and procurement guidelines and strategy to go forward with IDMS. The implementation of IDMS within a consistent enterprise strategy and framework will then reinforce ADOT's position as a pacesetter with respect to new technologies and a leader in innovation and staff productivity within the State of Arizona.

In addition to these results and conclusions, which may be leveraged internally within ADOT, a significant number of lessons and information from the IDMS study engagement can be leveraged by external, peer DOT organizations, who may themselves be at an early evaluation of IDMS solutions. These lessons can be extended to peer DOT organizations in other states and locations within the country, so as to better position and align them appropriately with respect to IDMS technologies. Specific lessons and opportunities for other state DOTs include the following:

- It is critical to establish consensus and gather requirements across the organization. Therefore the use of an initial research and recommendations report prepared by a 3rd party consulting organization is advised.
- IDMS technologies should not be positioned and leveraged as a driver of reduced costs through headcount or FTE reduction. Instead, the key mission and goal of IDMS implementations is to reinforce best practices methodology and increase productivity and efficiency within the organization, so that significantly more work and production is accomplished by the existing headcount

- IDMS technologies should be positioned where they have the most visible impact on customer and client service.
- Recruit the end user community early and often into the IDMS planning and design process. Of all the major technology groups, IDMS technologies are largely driven at a grass roots level by end users who are frustrated with the lack of access and control over mission critical files.
- A properly planned and implemented IDMS system has the effect of unifying people and stakeholders within the organization.
- New IDMS systems rarely cost justify themselves based on fixed dollar savings. The final justification for the systems is through enhanced productivity and ability to better leverage staff and knowledge workers to perform higher value work within a flatter, more efficiency service organization.

### **Implementation Plan**

Based on the analysis and research into the IDMS deployments at ADOT, it is recommended that IDMS implementation

proceed in the application areas with highest impact, visibility, and need for the IDMS solutions.

- Transportation Support Group
  - ✓ Cost Accounting
  - ✓ Procurement
- Intermodal Transportation Division
  - ✓ Bridge Group
  - ✓ Roadway Engineering
  - ✓ Computer Aided Engineering
- Motor Vehicles Division
  - ✓ Competitive Government Partnerships
  - ✓ Executive Hearing Office
  - ✓ MVD Records & Training

Deployments in each of these areas will have maximum impact in terms of file integrity, reduction of filing space, reduction in production backlogs, and increased ability to share information between multiple users.

These areas also represent a cross section of the office/administrative/clerical and engineering user communities, which will further help consolidate and unify the IDMS approach within ADOT.

Finally, by targeting these areas initially, ADOT will build on the current level of success and experience in areas such as Bridge Group where the FileNET / GPS W/EDGE solution is currently underway.

The full report *Evaluation of Integrated Document Management System (IDMS) Options for ADOT* by Deborah Trinchieri, Alastair Ramsay, Thomas Delaney, Michael Gilliland, Greg Pic'l, Laurel Grove, Covansys, 535 N Brand Blvd, Suite 1000, Glendale, CA 91203 (Arizona Department of Transportation, report number FHWA-AZ-03-517, published February 2003) is available from the Arizona Transportation Research Center, 206 S. 17 Ave., mail drop 075R, Phoenix, AZ 85007; phone 602-712-3138.